Changes in Mindful Parenting: Associations With Changes in Parenting, Parent–Youth Relationship Quality, and Youth Behavior

J. Douglas Coatsworth *Colorado State University*
Zachary Timpe *Colorado State University*
Robert L. Nix *University of Wisconsin–Madison*
Larissa G. Duncan *University of Wisconsin–Madison*
Mark T. Greenberg *The Pennsylvania State University*

ABSTRACT ***Objective:*** There is growing interest in mindful parenting and how this form of intentional, compassionate interactions with youth are associated with developmental outcomes. We investigated how mindful parenting changes over time, either naturally or in response to interventions, and how that change is associated with other proximal developmental changes. ***Method:*** We used data from a longitudinal, randomized-controlled study design ($N = 432$ families) to investigate the associations between changes in mindful parenting and 3 outcomes: positive parenting, parent–youth relationship quality, and youth aggression. Differences across 3 intervention conditions and between mothers and fathers were tested. ***Results:*** Across conditions, changes in mindful parenting were strongly associated with changes in all 3 outcomes for both fathers and mothers. Changes in mindful parenting showed considerable variability within and across conditions. For fathers, differences in mindful parenting change were driven primarily by changes in the core mindful parenting dimension of emotional awareness. Mothers showed comparable changes in mindful parenting across conditions. ***Conclusions:*** Findings illustrate how changes in mindful parenting are associated with proximal changes that could lead to reduced youth behavior problems (e.g., aggression or substance use) and provide additional evidence for the contribution that mindfulness activities can make to standard parent training.

KEYWORDS: mindfulness, parenting, prevention, aggression, adolescence

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The growing interest in mindfulness-based interventions has extended to the study of family-focused interventions and mindful parenting in particular. Although mindful parenting is a recent concept within parenting and family studies, it has received considerable attention. Mindful parenting has been shown

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to be associated with positive and negative parenting practices (Coatsworth et al., 2015; Parent, McKee, Rough, & Forehand, 2016), parenting stress (Gouveia, Carona, Canavarro, & Moreira, 2016; Haydicky, Shecter, Wiener, & Ducharme, 2015), parent–youth relationship quality (Coatsworth et al., 2015; Lippold, Duncan, Coatsworth, Nix, & Greenberg, 2015), parent emotion expression during parent–adolescent conflict (Turpyn & Chaplin, 2016), and youth behavior problems (Geurtzen, Scholte, Engels, Tak, & van Zundert, 2015; Parent et al., 2016). Intervention studies have also shown effects on parenting and youth behaviors (Bögels & Restifo, 2013; Coatsworth et al., 2015).

Yet, most studies of mindfulness in parenting are cross-sectional or short-term longitudinal studies and do not allow for investigation of how mindfulness in parenting *changes* over time. Intervention studies may target mindfulness in parenting, but even these studies may not investigate whether the intervention changed mindful parenting and whether that change is associated with changes in other hypothesized outcomes, such as parenting and youth behavior problems. Moreover, because mindfulness and mindful parenting are cognitive–affective processes, they may change in response to specific interventions—such as Mindfulness-Based Stress Reduction—that teach individuals to meditate (J. Kabat-Zinn, 1990), or mindful parenting interventions that may rely less on meditation and more on applying acts of mindfulness in the context of parenting (Bögels & Restifo, 2013; Coatsworth et al., 2015). Mindful parenting may also change in response to interventions that do not specifically teach mindfulness but focus on processes underlying mindfulness (e.g., emotional awareness, attention regulation, compassion; Townshend, 2016). Additionally, although mindful parenting is conceptualized as a multidimensional construct (Duncan, Coatsworth, & Greenberg, 2009), it is often studied as a singular construct, despite some evidence suggesting that core subdimensions may be more strongly associated with different outcomes (Geurtzen et al., 2015).

The current study examined the associations between changes in mindful parenting and changes in positive parenting strategies, parent–youth relationship quality, and youth behavior problems. We investigated these changes in the context of a randomized-controlled comparative efficacy study that included three conditions: the Mindfulness-Enhanced Strengthening Families Program (MSFP; Coatsworth et al., 2014, 2015); the Strengthening Families Program: For Parents and Youth 10-14 (SFP 10-14; Molgaard, Kumpfer, & Fleming, 2001); and a minimal-treatment home-study control condition. Because some evidence indicates that mindful parenting may differ between mothers and fathers (Gouveia et al., 2016; Medeiros, Gouveia, Canavarro, & Moreira, 2016) and that fathers may respond differently to mindful interventions (Coatsworth et al., 2015; Gouveia et al., 2016), we tested separate models for mothers and fathers. We also examined how individual dimensions of mindful parenting changed over time.

Background

The past two decades have brought increasing attention to theorizing and empirically studying how the concept of mindfulness can be integrated into and inform the study of parenting. *Mindful parenting* is defined as parents' abilities to pay attention to their child and their parenting in a way that is intentional, present centered, and nonjudgmental (M. Kabat-Zinn & Kabat-Zinn, 1997). It is distinguished conceptually from more traditional models of mindfulness and associated practices by reflecting how elements of mindfulness (e.g., attention/awareness, nonjudgmental attitude, compassion) are brought to specific parenting practices and parents' interactions with their children. It refers to how parents bring mindfulness to their thoughts, feelings, and behaviors around parenting, and how they bring compassion, acceptance, and kindness into their interactions with their children (Duncan et al., 2009). Although mindfulness in parenting may be associated with other dimensions of effective parenting (e.g., responsiveness, behavioral control, autonomy support, and psychological control), it is also distinct, accounting for variability in youth outcomes beyond traditional parenting dimensions (Duncan, 2007; Geurtzen et al., 2015). As noted, mindful parenting has been conceptualized as a multidimensional construct, with Duncan et al. (2009) defining five dimensions: (a) *listening with full attention*, reflecting parents' ability to pay close attention and listen carefully to their children during moment-to-moment parenting interactions; (b) *nonjudgmental acceptance of self and child*, in which parents are aware of their attributions and expectations of their children and cultivate a sense of openness and acceptance toward their own and their child's traits, attributes, and behaviors; (c) *emotional awareness of self and child*, reflecting parents' capacity for awareness of their child's emotions and their own emotions while parenting; (d) *self-regulation in parenting*, or parents' ability to slow down their reactions to their child's behavior and to be aware of their own intentions to calmly select and implement appropriate parenting behaviors; and (e) *compassion for self and child*, reflecting parents' genuine sense of concern for their child, themselves as parents, and their struggles.

Mindful parenting has been associated with more adaptive parenting styles and practices (Gouveia et al., 2016; McKee, Parent, Zachary, & Forehand, 2018; Parent et al., 2016). Parent and colleagues (2016) showed that mindful parenting was positively associated with a construct of *positive parenting*, reflected in the parent showing warmth and affection, using positive reinforcement, using clear instructions, and facilitating supportive parent–child communication. Mindful parenting was also negatively associated with a construct of *negative parenting*, which included intrusive parenting, lack of anger control, ineffective and coercive discipline, and expressed hostility. Moreover, these associations were consistent across three developmental stages ranging from age 3 to 17. McKee and colleagues (2018) showed that mindful parenting was positively associated with supportive emotion socialization

(i.e., parents' expressive encouragement and emotion or problem-focused interactions with their youth) and negatively associated with nonsupportive emotion socialization (i.e., parents' reactions that convey distress, minimization, or punitiveness), in a short-term (4-month) longitudinal study. Gouveia and colleagues (2016) showed that mindful parenting was positively associated with authoritative parenting and negatively associated with authoritarian and permissive parenting styles.

When parents are mindful—meaning they take a present-centered, compassionate, and nonjudgmental approach in their interactions with their children—then they have more positive interactions with their children (Duncan, Coatsworth, Gayles, Geier, & Greenberg, 2015; Turpyn & Chaplin, 2016) and develop a more positive relationship and secure attachment with them (Coatsworth, Duncan, Greenberg, & Nix, 2010; Coatsworth et al., 2015; Lippold et al., 2015; Mederios et al., 2016). These relationships tend to be characterized by more frequent and more positive involvement, sharing mutually interesting activities, higher levels of positive affect, lower levels of negative affect, and more sharing and disclosure of life events and emotions. Turpyn and Chaplin (2016) observed that mindful parents were also less likely to exhibit negative emotions in a conflict interaction with their youth than less mindful parents. Although mindful parenting was not associated with parent expression of positive emotion in a conflict task, it was associated with shared positive emotion (i.e., parent and youth simultaneously expressing positive emotions).

Mindful parenting is also associated positively with youth psychological adjustment and negatively with youth behavioral problems (e.g., Geurtzen et al., 2015; Parent et al., 2016). Parents who are more mindful tend to have children with fewer internalizing problems (e.g., depression and anxiety) and externalizing problems (e.g., aggression and acting out) across a wide range of ages (3–17; Parent et al., 2016). The association of mindful parenting and youth well-being appears to be similar for mothers and fathers (Mederios et al., 2016).

Despite the increasing number of studies in this area, relatively little is known about changes in mindful parenting. The construct of mindful parenting appears to be psychometrically sound across developmental stages (Parent et al., 2016) and is invariant across parent genders (McKee et al., 2018), even though mothers and fathers have different mean levels of mindfulness in parenting (Mederios et al., 2016). Yet, we know less about how mindfulness in parenting changes over time. Parenting behaviors are dependent on a variety of factors (Belsky, 1984) and may change in response to changes in contextual, personal, or interpersonal factors. Parenting behaviors such as warmth and acceptance, behavioral control, and psychological control show both stability and change over the child's transition to adolescence (Barber, Maughan, & Olsen, 2005), as does parenting competence in early childhood (Teti & Huang, 2005). Monitoring, an important parenting strategy in adolescence, is also known to show intraindividual variation over time

(Pettit, Keiley, Laird, Bates, & Dodge, 2007). It is possible that mindfulness in parenting is responsive to similar contextual factors and may show intraindividual variation similar to that of other parenting dimensions. It is also possible that like trait mindfulness—one's predisposition to behave mindfully in daily life (e.g., Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006)—mindful parenting shows considerable stability over time. Most studies of mindfulness in parenting are not longitudinal and at best can show short-term change.

Randomized clinical trials testing mindful parenting interventions are an excellent way to investigate the sensitivity of mindful parenting to change and to compare how change may be experimentally induced or the result of natural change (i.e., in a control group). Results from recent intervention studies show that mindful parenting does change in response to intervention in both nonclinical (Coatsworth et al., 2010, 2015) and clinical populations (Meppelink, de Bruin, Wanders-Mulder, Vennik, & Bögels, 2016). Meppelink et al. (2016) demonstrated change in mindful parenting, but it was not within a randomized trial. Coatsworth et al. (2015) demonstrated within a randomized clinical trial that a mindfulness-based family intervention would influence mindful parenting, other parenting dimensions, and parental well-being compared to a parent-management skills intervention and a home-study condition. Coatsworth and colleagues (2015) also illustrated that mothers and fathers showed different patterns of change in mindful parenting. Yet, the intervention and nonintervention literature alike lack studies demonstrating the associations between *changes in mindful parenting* and changes in other hypothesized developmental processes, such as positive parenting, positive parent–youth relationships, parental well-being, and youth behavior problems.

The current study aimed to bridge these gaps in the literature by testing two primary research questions. First, we examined the associations between *changes in mindful parenting* and *changes in three critical developmental processes*: (a) positive parenting, (b) parent–youth relationship quality, and (c) youth aggressive behaviors. We also examined whether associations were similar for mothers and fathers, as fathers are underrepresented in general studies of parenting and parenting interventions. We also examined mean levels of change in mindful parenting, and its core components, by parent gender and across intervention conditions.

Method

Study Design

This study used a randomized-controlled comparative efficacy trial design, which is similar to practical clinical trial designs (Tunis, Stryer, & Clancy, 2003) that test innovative interventions against a previously established best practice or standard of care in a naturalistic community setting (Shegog et al., 2013). In this study, we used SFP 10-14 as a standard of care because of its demonstrated efficacy in mod-

ifying parenting practices, enhancing parent–youth relationships, and reducing youth behavior problems and substance use (Spoth & Redmond, 2002; Spoth, Shin, Guyll, Redmond, & Azevedo, 2006). We also included an information-only home-study control condition, similar to the comparison group used in SFP 10-14 foundational studies.

Participants

Participants included 432 families (69% European American, 15% African American, 8% Latino, 4% Asian, 1% American Indian, 3% biracial) of 6th- and 7th-grade students in four school districts in rural and urban areas of central Pennsylvania. The majority of families (66%; $N = 286$) included two parents, and 90% of fathers participated in this study. Among parents, 25% percent of mothers and 30% of fathers had a high school diploma or less; median annual family income was $49,000. Among target youths, 54% were female; the average age was 12.14 ($SD = .67$).

Study Procedures

The Pennsylvania State University Institutional Review Board approved procedures for this study. Assessments were conducted with mothers, fathers, and youths at baseline, postintervention, and 1-year follow-up. Families completing baseline assessments were randomly assigned to MSFP ($n = 154$), SFP 10-14 ($n = 160$), or home study ($n = 118$). A participant CONSORT flow diagram is provided in Figure 1.

Intervention Procedures

SFP 10-14 is an evidence-based, family focused preventive intervention for adolescent substance use and problem behavior (Molgaard, Spoth, & Redmond, 2000). The intervention is designed to improve parenting practices, strengthen family relationships, and teach youth a variety of life skills. The program is delivered to groups of parents and youths in 2-hour sessions over 7 weeks. Parents and youths meet in separate groups for the first hour and meet together in a family session during the second hour.

MSFP is an adapted version of SFP 10-14 that retained the format (e.g., session number, length, and timing) and core content of SFP 10-14 but infused new mindful parenting activities. New activities were based on core mindfulness practices common to other interventions but were designed specifically for this parent training context and consistent with the five dimensions of mindful parenting (Duncan et al., 2009). Some of the language of SFP 10-14 was also adapted to include mindfulness terms such as *presence*, *attention*, and *compassion*. Similar to the delivery strategies of SFP 10-14, new mindful parenting activities were facilitated in didactic presentations (about principles of mindful parenting), modeling (of mindfulness practices), and group interactive discussions. A more complete description of the intervention is available elsewhere (Coatsworth et al., 2014).

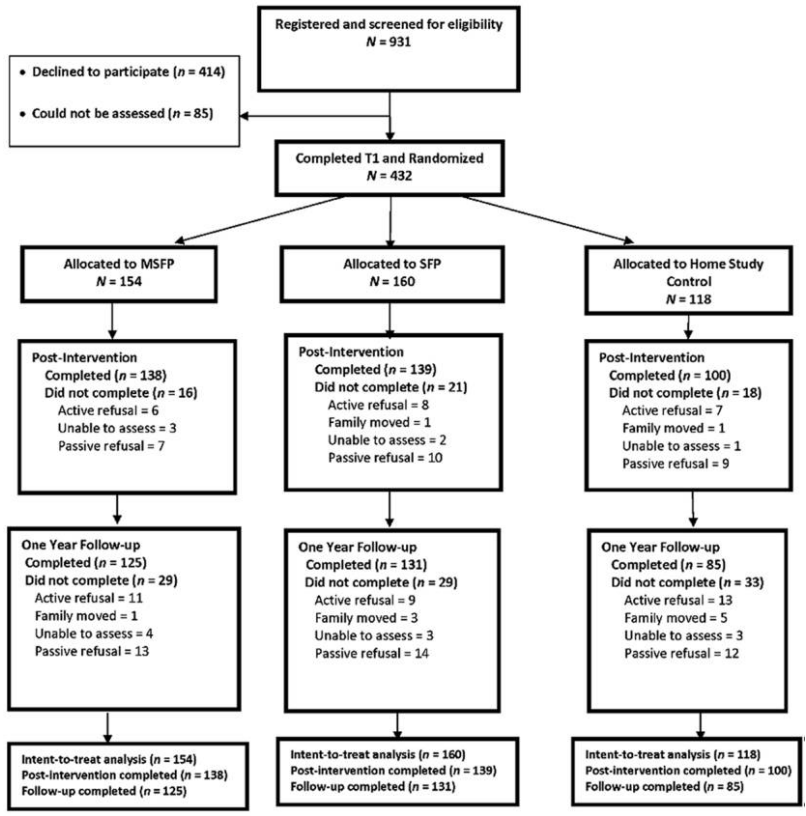

Figure 1. CONSORT diagram showing the flow of participants through the trial. MSFP = Mindfulness-Enhanced Strengthening Families Program; SFP = Strengthening Families Program: For Parents and Youth 10-14; T1 = preintervention.

The SFP 10-14 and MSFP intervention conditions were delivered on the same evening, but at different locations, once per week for 7 weeks. This helped to reduce any potential confounding with family availability due to differential participation in conflicting youth or family activities (e.g., sports, church groups, etc.).

Home study served as a minimal-intervention control condition and featured two short booklets that were mailed to families. Both booklets contained information from readily available online resources. The first booklet contained information about social–emotional changes that occur during adolescence, and the second contained information about family life with adolescents. Families in this condition did not receive any additional services from this research project.

Intervention Training and Fidelity

All facilitators had at least a bachelor's degree and experience working with youth or parents. MSFP facilitators also had training and personal experience with a contemplative practice. Facilitators of SFP 10-14 and MSFP completed a 3-day certified training program on the SFP 10-14 intervention. MSFP training included review and practice of the added mindfulness activities. Fidelity was monitored through weekly supervision and observation of intervention sessions. Trained staff observed three to four of the seven sessions, documenting facilitator behaviors and adherence to protocol using a series of structured ratings developed for SFP 10-14 (Spoth, Guyll, Lillehoj, Redmond, & Greenberg, 2007). Ratings for MSFP were modified to include assessment of the additional mindfulness activities. Adherence was high across sessions, with 93% of prescribed program content being covered in both SFP 10-14 and MSFP. Facilitator effectiveness and parent and youth participation were excellent, indicating high-quality implementation. Ratings did not differ across conditions (Coatsworth et al., 2015) and were comparable to the adherence figures found in delivery of SFP 10-14 in other studies (Spoth et al., 2007).

Measures

Most measures used in this study were also used in prior longitudinal studies to evaluate the efficacy of SFP 10-14 (Redmond, Spoth, Shin, & Lepper, 1999; Spoth et al., 2006).

Mindful parenting. We used five subscales from the Interpersonal Mindfulness in Parenting questionnaire (Duncan, 2007) to index mindful parenting. *Listening with full attention* was assessed with five items (e.g., "I find myself listening to my child with one ear because I am busy doing or thinking about something else at the same time"; α = .80–.84). *Self-regulation in parenting* was assessed with seven items (e.g., "When I am upset with my child, I calmly tell him/her how I am feeling"; α = .67–.84). *Emotional awareness of youth* was assessed with three items (e.g., "I can tell what my child is feeling even if he/she does not say anything" (α = .70–.75). *Compassion/acceptance for youth* was assessed with six items (e.g., "When my child is going through a difficult time, I try to give him/her the nurturing and caring he/she needs"; α = .81–.90). *Compassion/acceptance for self* was assessed with seven items (e.g., "When I do something as a parent that I regret, I try to give myself a break"; α = .62–.76). All items were rated on a 5-point Likert scale with response options ranging from 0 (*never true*) to 4 (*always true*).

Parent–youth relationship quality. We used three indicators of parent–youth relationship quality. *Affective/interaction quality* (Spoth, Redmond, & Shin, 1998) included reports of positive and negative affective interactions with their child (e.g., "During the past month, when you and your child have spent time talking or doing things together, how often did you let your child know you really care about her/him?"; α = .89–.92). All items were rated on a 7-point Likert scale with response options

ranging from 0 (*never*) to 6 (*always*). *Approach to emotions* (Coatsworth, 2010) was based on theory and research of parent emotion coaching (Gottman & DeClaire, 1997) and included seven items (e.g., "When my child is sad or angry, I try to help him/her understand why"; $\alpha = .60–.74$). All items were rated on a 5-point Likert scale with response options ranging from 0 (*completely disagree*) to 4 (*completely agree*). *Harsh discipline* (Spoth et al., 1998) included five items indicating how frequently parents used punitive and harsh forms of discipline (e.g., "When your child does something wrong, how often do you shout, yell or scream at him or her?"; $\alpha = .80–.84$). All items were rated on a 5-point Likert scale with response options ranging from 0 (*never*) to 4 (*always*).

Positive parenting. Mothers and fathers reported on four aspects of parenting used in prior studies of SFP 10-14 (Spoth et al., 1998). *Inductive reasoning* included four items (e.g., "How often do you give reasons to this child for your decisions?"; $\alpha = .66–.79$). *Monitoring* included six items (e.g., "How often do you know who this child is with when he/she is away from home?"; $\alpha = .67–.81$). *Parental guidance* was represented by five items reflecting the extent to which parents provide guidance and direction to their child's behaviors (e.g., "I talk with my child about ways to resist peer pressure"; $\alpha = .69–.83$). *Support/understanding* included 10 items (e.g., "I listen to my child's point of view about rules and responsibilities?"; $\alpha = .82–.88$). All parenting items were rated on a 5-point Likert scale with response options ranging from 0 (*never true*) to 4 (*always true*).

Youth aggression. Four indicators represented youths' self-report of aggressive behavior. Two scales—nonphysical aggression and delinquency—were drawn from a measure of problem behavior (Farrell, Kung, White, & Valois, 2000). Six items reflected youths' *nonphysical aggression* (e.g., "Put someone down to their face"; $\alpha = .75–.85$), and five items reflected how often they committed acts of *delinquency* (e.g. "shoplifted something from a store"; $\alpha = .81–.85$). Youths responded to these items on a 5-point Likert scale with response options ranging from 0 (*never*) to 4 (*more than 5 times*). *School problems* (Spoth et al., 1998) was a 7-item composite reflecting trouble youths had at school (e.g., "breaking school rules"; $\alpha = .74–.86$) Youths responded on a 5-point Likert scale with response options ranging from 0 (*never*) to 4 (*more than 5 times*). *Externalizing behavior* (Achenbach, 1991) included 15 items reflecting youth rule-breaking behaviors (e.g., "disobedient at home and school"; $\alpha = .90–.95$) and 17 items reflecting aggressive behaviors (e.g., "gets into many fights"; $\alpha = .89–.95$). Responses were on a 3-item Likert scale with response options ranging from 0 (*not true*) to 2 (*very true or often true*).

Data Analysis Plan

To address the study's two research questions, we computed difference scores between baseline and 1-year follow-up items and used structural equation modeling (SEM) to model change in the study's four constructs (i.e., mindful parenting, parent–

youth relationship quality, positive parenting, and youth aggression) and then test for associations between changes in mindful parenting and parent–youth relationship quality, positive parenting practices, and youth aggressive behaviors. Before completing SEM analyses, we conducted confirmatory factor analyses of all four latent constructs (mindful parenting, parent–youth relationship quality, positive parenting practices, and youth aggression). We selected SEM for its utility in estimating latent constructs while accounting for measurement error (Ullman & Bentler, 2012). We examined chi square tests, comparative fit index (CFI; Bentler, 1990), and root mean square error of approximation (RMSEA; Browne and Cudeck, 1993) to assess model fit. SEM analyses were conducted using STATA's maximum likelihood with missing data option, reducing the potential for bias from missing data. We then conducted MANOVA to explore mean level changes of the individual items comprising mindful parenting by condition.

Results

Preliminary Analyses

We conducted all analyses using STATA (Version 14). Prior to testing our structural models, we tested the fit of the measurement models for each latent construct to ensure that they demonstrated acceptable factor loadings and fit statistics for father-, mother-, and youth-report data. The latent construct of mindful parenting consisted of five subscales, each showing acceptable loadings in the SEM ranging from .36–.71 for fathers and .33–.72 for mothers. The parent–youth relationship quality construct was indexed by three subscales, with item loadings ranging from .47–.74 for fathers and .33–.72 for mothers. The positive parenting practices construct, indexed by four subscales, had factor loadings ranging from .46–.71 for fathers and .47–.74 for mothers. Finally, the last latent factor, youth reports of aggression, was indexed by three subscales. Factor loadings ranged from .68–.70. Fit statistics of these confirmatory factor analysis models for the four constructs were excellent (CFI = .976–1.00; RMSEA = .00–.04).

Changes in Mindful Parenting and Associated Outcomes

To test for direct associations between changes in mindful parenting and changes in parent–youth relationship quality, positive parenting practices, and youth reports of aggression, we conducted three separate SEM analyses using father data and then three using mother data. Sample sizes used in the SEM analyses ranged from 168–186 for fathers and 311–324 for mothers. Particularly for fathers, there remains a dearth of empirical studies on parenting practices and associated outcomes; hence, we limited SEM analyses to include one latent construct outcome per model to maximize parsimony and maintain power to detect significant associations. Table 1 presents standardized coefficients from SEM analyses conducted

Table 1
Statistics for Structural Equation Models Testing Associations Between Mindful Parenting and Outcomes by Fathers and Mothers

	Fathers				Mothers			
		Fit Statistics				Fit Statistics		
Outcomes	Coefficient	χ^2	CFI	RMSEA	Coefficient	χ^2	CFI	RMSEA
Parenting	.70 (.00)	.22	0.98	.035	.55 (.00)	.04	0.98	.040
Relationship quality	.68 (.00)	.50	1.00	.000	.67 (.00)	.25	0.99	.024
Youth aggression	−.24 (.03)	.23	0.98	.032	−.03 (.69)	.68	1.00	.000

Note. Mother sample sizes were 371 for *parenting* and *relationship quality* and 368 for *youth aggression*. Father sample sizes were 168 for *parenting* and *relationship quality* and 186 for *youth aggression*. Fit statistics: χ^2 = model chi-square; CFI = comparative fit index; RMSEA = root mean square error of approximation.

separately for mothers and fathers. Chi square tests yielded p values greater than .10 in all but one analysis, whereas all CFI and RMSEA estimates met standard criteria for acceptable model fit (CFI > .95; RMSEA < .05).

Fathers. Changes in fathers' mindful parenting were significantly associated with positive and significant changes in each latent outcome, including increases in parenting ($\beta = .70$; $p < .01$), parent–youth relationship quality ($\beta = .68$; $p < .01$), and decreases in youths' aggressive behaviors ($\beta = -.24$; $p < .05$).

Mothers. Changes in mothers' mindful parenting were associated with positive and significant changes in parenting ($\beta = .55$; $p < .01$) and parent–youth relationship quality ($\beta = .67$; $p < .01$), but there was no association with changes in youths' aggressive behaviors ($\beta = -.03$; $p < .69$).

Mean-Level Change in Mindful Parenting

Table 2 shows results of MANOVA for the five items comprising mindful parenting, with intervention condition as the predictor. The dimensions of mindfulness in parenting showed moderate correlations (.17–.41 for father data and .17–.47 for mother data), indicating that MANOVA was an appropriate method for this analysis. In addition, Table 2 displays the means and standard deviations of changes in each item, categorized by condition.

Fathers. MANOVA results indicated significant mean-level differences of changes in mindful parenting by intervention condition (Wilks's lambda = .86; $p < .05$). Regression models underlying the MANOVA suggested the statistically significant and meaningful change in mindful parenting was primarily reflected in emotional awareness of the child ($F = 5.64$; $p < .01$). Fathers participating in MSFP experienced

Table 2
Mean Change and Standard Deviation in Mindful Parenting Dimensions by Mothers, Fathers, and Intervention Conditions

	Intervention Condition			
	Mean Change (Standard Deviation)			
Mindful Parenting Dimensions	MSFP	SFP 10-14	Control	*F* statistic; *p* value (R^2)
Fathers (n = 186)				
Listening with full attention	.18 (.50)	.01 (.53)	.18 (.48)	1.98; .140 (.028)
Emotional awareness	.21 (.61)	−.15 (.58)	−.13 (.58)	5.64; .004 (.075)
Self-regulation	.23 (.48)	.26 (.40)	.13 (.47)	0.91; .410 (.013)
Compassion for self	.21 (.48)	.11 (.41)	.01 (.50)	2.03; .140 (.028)
Compassion for child	.09 (.44)	.02 (.47)	−.01 (.34)	0.57; .560 (.008)
Mothers (n = 371)				
Listening with full attention	.14 (.48)	.12 (.47)	.06 (.48)	0.67; .510 (.004)
Emotional awareness	.15 (.57)	.10 (.54)	−.01 (.60)	1.80; .170 (.011)
Self-regulation	.23 (.45)	.22 (.51)	.09 (.50)	2.25; .110 (.014)
Compassion for self	.24 (.48)	.22 (.55)	.18 (.44)	0.40; .670 (.003)
Compassion for child	.05 (.37)	.11 (.40)	.03 (.43)	1.30; .280 (.009)

Note. MSFP = Mindful-Enhanced Strengthening Families Program; SFP 10-14 = Strengthening Families Program: For Parents and Youth 10-14.

an increase in emotional awareness of the child (.21), whereas fathers participating in SFP 10-14 and control conditions experienced declines (−.15 and −.13, respectively). Notably, standard deviations for the mindful parenting composite score and for each item were large, ranging from .34–.61.

Mothers. MANOVA results did not indicate significant mean-level differences in changes in mindful parenting by intervention condition (Wilks's lambda = .97; p = .44). Regression models underlying the MANOVA indicated no statistically significant or meaningful changes in the items comprising mindful parenting, though changes in self-regulation in parenting approached significance (p = .11). Similar to father reports, standard deviations for the overall mindful parenting composite score and for each item were large, ranging from .37–.60.

Due to high standard deviations across changes in father- and mother-reported mindful parenting, we were interested in determining how much variation in the mean-level differences of mindful parenting subscales was explained by intervention condition. For fathers, intervention condition explained approximately 7.5% of the variation in mean-level changes in emotional awareness of the child, the only subscale with a demonstrated significant change due to condition. Variation

explained by intervention condition in the other subscales ranged from 0.1% (compassion for child) to 2.8% (listening with full attention). For mothers, there were no mean-level differences in changes among any of the mindful parenting subscales. Variation explained due to intervention condition ranged from 0.3% (compassion for self) to 1.4% (self-regulation in parenting).

Discussion

This study used a comparative effectiveness research design to investigate the associations between changes in mindful parenting and positive parenting, parent–youth relationship quality, and youth aggression. Despite the increasing number of studies investigating mindfulness in parenting and mindful parenting interventions, few studies have examined how mindful parenting changes over time, and few have examined associations between changes in mindful parenting and changes in other developmental outcomes. Results extend our prior work in several ways. First, they revealed strong associations between changes in mindful parenting and changes in positive parenting and parent–youth relationship quality for both fathers and mothers. Changes in mindful parenting showed a significant negative association with changes in youth aggression for fathers, but not mothers. Second, the findings suggest that the greatest change in mindful parenting across intervention conditions occurred for fathers, specifically with respect to father's emotional awareness of his child.

As expected, change in mindful parenting was evident across the 1-year study timeframe, and change was associated with changes in parenting, parent–youth relationship quality, and youth outcomes. These findings are consistent with but extend the work of others, who have found that mindful parenting is associated with positive parenting (Parent et al., 2016), parent–youth relationship quality (Lippold et al., 2015), and youth behavior problems (Geurtzen et al., 2015) by showing that changes in mindful parenting are associated with changes in these other constructs. Unique to this study was our ability to examine change within different intervention conditions, and our findings point to considerable variability within each of the three study conditions. In short-term longitudinal studies, mindful parenting is often treated as a static background predictor, but our results suggest that this may not be the case and that change in mindful parenting can occur naturally without intervention. Other parenting strategies change over time in relation to developmental needs of the child, in response to child's behavioral development, in response to processes such as family stress, and in relation to parents' own intrapersonal and life circumstances (Greenley, Holmbeck, & Rose, 2006). It may be especially useful for future studies to examine the natural and directed course of mindfulness in parenting and its correlates. How mindfulness in parenting within individuals fluctuates across time and in response to intrapersonal, interpersonal, and contextual circumstances can inform more effective mindful parenting interventions.

Like other studies, our results point to gender differences between fathers and mothers in patterns of mindful parenting. Other studies have found that mothers reported higher levels of mindful parenting than fathers did (Medeiros et al., 2016; Parent et al., 2016). It may be that mothers tend to be more emotionally attuned and connected to the present moment in parent–child interactions than fathers, and this is reflected in higher levels of mindfulness in parenting. Medeiros and colleagues (2016) have also suggested that individual, biological, and cultural differences may all contribute to mothers being more willing to adopt a more mindful parenting approach than fathers. Our findings extend this by indicating that although mothers may show higher levels of mindful parenting than fathers, change in mindful parenting shows similar associations with change in positive parenting, parent–youth relationship quality, and youth aggression for mothers and fathers. One gender difference that was evident in our study was that fathers who received MSFP showed greater change in mindful parenting, specifically in their emotional awareness of the child, than fathers in the other two conditions. In contrast, for mothers, change in mindful parenting and the core dimensions was similar across conditions. These findings are consistent with past analyses indicating differential patterns of change in core mindful parenting dimensions for mothers and fathers (Coatsworth et al., 2015). If mothers are more naturally mindful with their children and are more likely to adopt a mindful parenting approach than fathers, it may be that for them, less direct "mindful" intervention is required to contribute to change in parenting mindfulness. In contrast, fathers may require a more direct approach in teaching them about mindful parenting.

Consistent with this interpretation, our results also indicated that the core mindful parenting dimension of emotional awareness showed the greatest change for fathers across groups, with those receiving MSFP showing more change. Mothers may be more naturally empathic and emotionally responsive compared to men (Rueckert, Branch, & Doan, 2011), but the changing nature of father involvement in the family across the globe suggests a more nurturing role in the family (Chaudhary, Tuli, & Sharda, 2015), which may necessitate being emotionally attuned and demonstrating more mindfulness in parenting. Fathers often have more gendered beliefs about their family roles than mothers and focus on their historical and cultural role of providing family safety and security rather than on nurturance. Mindful parenting interventions may help fathers to develop the skills to provide more emotionally attuned care for their children and to develop relationships with their children in which shared emotional expression is valued and interrupts tendencies for fathers to be punitive or avoidant of emotional situations (Coatsworth et al., 2015; MacDonald & Hastings, 2010). These findings raise implications for deeper understanding of the intervention's effects. For example, they suggest specific intervention activities may have greater effects on specific mindful parenting dimensions for different individuals (e.g., mothers vs. fathers). Although it is not yet pos-

sible to empirically examine intervention effects at this level of specificity, future studies could work to disaggregate the effects of intervention activities through different designs, such as micro trials (Leijten et al., 2015). In addition, although measurement models of mindful parenting have shown invariance for mothers and fathers (e.g., Duncan, 2007; McKee et al., 2018), it is important to validate this across different samples (de Bruin et al., 2014; Moreira & Canavarro, 2017). A more complete understanding of how parents are interpreting the dimensions of mindful parenting could also be explored through qualitative studies.

Our findings are also consistent with those of McKee and colleagues (2018), the observational study of Turpyn and Chaplin (2016), and with the process model of mindful parenting (Duncan et al., 2009), indicating that mindful parenting is strongly connected to how parents express themselves emotionally which, in turn, may foster positive relationships. Fathers tend to engage in more emotionally nonsupportive interactions with their children (Baker, Fenning, & Crnic, 2011), and a shift to emotionally supportive practices could have significant effects on parent–youth relationships and on youth behaviors (McKee et al., 2018). Mindful parenting interventions may shift fathers' gendered role beliefs and give fathers permission to respond in emotionally attuned ways that are different from their usual patterns.

Limitations

This study has several limitations that should be noted. First, because we modeled change in all four constructs using data from baseline to 1-year postbaseline, we cannot draw causal inferences from these analyses. We cannot rule out that changes in relationship quality or youth aggression led to changes in mindful parenting, although we have hypothesized the direction of these associations is from mindful parenting to other outcomes (Duncan et al., 2009). Second, although this sample of fathers is one of the largest available to study mindful parenting, it is still slightly underpowered. We chose to investigate fathers and mothers separately rather than use actor–partner interdependence models because in such models, the family is the unit of analyses, we would have eliminated any single parents from our analyses, and we would have modeled effect of one parent controlling for the effect of the other, which were not aims of the present study. Examining associations between mindful parenting and youth outcomes using actor–partner interdependence models is an interesting method for future studies, however.

Conclusions

Mindful parenting reflects parents' capacity to interact with their children in a more accepting, emotionally attuned, and compassionate way. Findings from this study indicate that changes in this quality of parenting are strongly associated with positive outcomes for youth for both mothers and fathers. Findings also highlight

the positive effect that direct teaching of mindful parenting in the context of a parenting and family-strengthening program can have for fathers in particular. As we extend our work, it is vital to investigate for whom interventions are working and for whom they are not. Examining gender differences is one clear moderator to explore, but other person, family, or contextual variables may also influence intervention effects or the association between variables and can help us refine interventions or direct individuals to the most appropriate intervention.

Author Notes

J. Douglas Coatsworth, PhD, is a professor of human development and family studies at Colorado State University.

Zachary Timpe, PhD, is a postdoctoral fellow, research associate in the School of Social Work at Colorado State University.

Robert L. Nix, PhD, is an associate professor of human development and family studies at the University of Wisconsin–Madison.

Larissa G. Duncan, PhD, is an associate professor of human development and family studies at the University of Wisconsin–Madison.

Mark T. Greenberg, PhD, is a professor of human development and family studies at The Pennsylvania State University.

Correspondence regarding this article should be directed to J. Douglas Coatsworth, Colorado State University, Campus Delivery 1570, Fort Collins, CO, 80523-1570 or via e-mail to doug.coatsworth@colostate.edu

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References

Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4–18 and 1991 profile*. Burlington, VT: University of Vermont Department of Psychiatry.

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, *13*(1), 27–45. https://doi.org/10.1177/1073191105283504

Baker, J. K., Fenning, R. M., & Crnic, K. A. (2011). Emotion socialization by mothers and fathers: Coherence among behaviors and associations with parent attitudes and children's social competence. *Social Development*, *20*(2), 412–430. doi:10.1111/j.1467-9507.2010.00585.x

Barber, B. K., Maughan, S. L., & Olsen, J. A. (2005). Patterns of parenting across adolescence. *New Directions for Child and Adolescent Development*, *108*, 5–16. doi:10.1002/cd.124

Belsky, J. (1984). The determinants of parenting. *Child Development*, *55*, 83–96. doi:10.2307/1129836

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238–246. doi:10.1037/0033-2909.107.2.238.

Bögels, S., & Restifo, K. (2013). *Mindful parenting: A guide for mental health practitioners*. New York, NY: Springer Science & Business Media.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: SAGE Publications.

Chaudhary, N., Tuli, M., & Sharda, S. (2015). Fathers. In R. E. Tremblay, M. Boivin, & R. Peters (Eds.), *Encyclopedia on early childhood development*. Retrieved from http://www.child-encyclopedia.com/father-paternity/according-experts/fathers

Coatsworth, J. D. (2010). *A measure of parental approach to emotions in their youth*. Unpublished manuscript, The Pennsylvania State University.

Coatsworth, J. D., Duncan, L. G., Berrena, E., Bamberger, K. T., Loeschinger, D., Greenberg, M. G., & Nix, R. L. (2014). The Mindfulness-Enhanced Strengthening Families Program: Integrating brief mindfulness activities and parent training within an evidence-based prevention program. *New Directions in Youth Development*, *142*, 45–58. doi:10.1002/yd.20096

Coatsworth, J. D., Duncan, L. G., Greenberg, M. T., & Nix, R. L. (2010). Changing parent's mindfulness, child management skills and relationship quality with their youth: Results from a randomized pilot intervention trial. *Journal of Child and Family Studies*, *19*, 203–217. doi:10.1007/s10826-009-9304-8

Coatsworth, J. D., Duncan, L. G., Nix, R. L., Greenberg, M. T., Gayles, J. G., Bamberger, K. T., . . . Demi, M. A. (2015). Integrating mindfulness with parent training: Effects of the Mindfulness-enhanced Strengthening Families Program. *Developmental Psychology*, *51*, 26–35. doi:10.1037/a0038212

de Bruin, E. I., Zijlstra, B. J., Geurtzen, N., van Zundert, R. M., van de Weijer-Bergsma, E., Hartman, E. E., . . . Bögels, S. M. (2014). Mindful parenting assessed further: Psychometric properties of the Dutch version of the Interpersonal Mindfulness in Parenting Scale (IM-P). *Mindfulness*, *5*(2), 200–212. https://doi.org/10.1007/s12671-012-0168-4

Duncan, L. G. (2007). *Assessment of mindful parenting among parents of early adolescents: Development and validation of the Interpersonal Mindfulness in Parenting scale* (Unpublished doctoral dissertation, The Pennsylvania State University).

Duncan, L. G., Coatsworth, J. D., Gayles, J. G., Geier, M. H., & Greenberg, M. T. (2015). Can mindful parenting be observed? Relations between observational ratings of mother–youth interactions and mothers' self-report of mindful parenting. *Journal of Family Psychology*, *29*, 276–282. doi:10.1037/a0038857

Duncan, L. G., Coatsworth, J. D., & Greenberg, M. T. (2009). A model of mindful parenting: Implications for parent-child relationships and prevention research. *Clinical Child and Family Psychology Review*, *12*, 255–270. doi:10.1007/s10567-009-0046-3

Farrell, A. D., Kung, E. M., White, K. S., & Valois, R. (2000). The structure of self-reported aggression, drug use, and delinquent behaviors during early adolescence. *Journal of Clinical Child Psychology*, *29*, 282–292. doi:10.1207/S15374424jccp2902_13

Geurtzen, N., Scholte, R. H., Engels, R. C., Tak, Y. R., & van Zundert, R. M. (2015). Association between mindful parenting and adolescents' internalizing problems: Non-judgmental acceptance of parenting as core element. *Journal of Child and Family Studies*, *24*(4), 1117–1128. doi:10.1007/s10826-014-9920-9

Gottman, J. M., & DeClair, J. (1997). *The heart of parenting: How to raise an emotionally intelligent child*. New York, NY: Simon & Schuster.

Gouveia, M. J., Carona, C., Canavarro, M. C., & Moreira, H. (2016). Self-compassion and dispositional mindfulness are associated with parenting styles and parenting stress: The mediating role of mindful parenting. *Mindfulness*, *7*, 700–712. doi:10.1007/s12671-016-0507-y

Greenley, R. N., Holmbeck, G. N., & Rose, B. M. (2006). Predictors of parenting behavior trajectories among families of young adolescents with and without spina bifida. *Journal of Pediatric Psychology*, *31*(10), 1057–1071. doi:10.1093/jpepsy/jsj011

Haydicky, J., Shecter, C., Wiener, J., & Ducharme, J. M. (2015). Evaluation of MBCT for adolescents with ADHD and their parents: Impact on individual and family functioning. *Journal of Child and Family Studies*, *24*, 76–94. doi:10.1007/s10826-013-9815-1

Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. New York, NY: Dell Publishing.

Kabat-Zinn, M., & Kabat-Zinn, J. (1997). *Everyday blessings. The inner work of mindful parenting*. New York, NY: Hachette Books.

Leijten, P., Dishion, T. J., Thomaes, S., Raaijmakers, M. A., Orobio de Castro, B., & Matthys, W. (2015). Bringing parenting interventions back to the future: How randomized microtrials may benefit parenting intervention efficacy. *Clinical Psychology: Science and Practice*, *22*(1), 47–57. doi:10.1111/cpsp.12087

Lippold, M. A., Duncan, L. G., Coatsworth, J. D., Nix, R. L., & Greenberg, M. T. (2015). Understanding how mindful parenting may be linked to mother–adolescent communication. *Journal of Youth and Adolescence*, *44*, 1663–1673. doi:10.1007/s10964-015-0325-x

MacDonald, E. E., & Hastings, R. P. (2010). Mindful parenting and care involvement of fathers of children with intellectual disabilities. *Journal of Child and Family Studies*, *19*(2), 236–240. doi:10.1007/s10826-008-9243-9

McKee, L. G., Parent, J., Zachary, C. R., & Forehand, R. (2018). Mindful parenting and emotion socialization practices: Concurrent and longitudinal associations. *Family Process*, *57*(3), 752–766. https://doi.10.1111/famp.12329

Medeiros, C., Gouveia, M. J., Canavarro, M. C., & Moreira, H. (2016). The indirect effect of the mindful parenting of mothers and fathers on the child's perceived well-being through the child's attachment to parents. *Mindfulness*, *7*, 916–927. doi:10.1007/s12671-016-0530-z

Meppelink, R., de Bruin, E. I., Wanders-Mulder, F. H., Vennik, C. J., & Bögels, S. M. (2016). Mindful parenting training in child psychiatric settings: Heightened parental mindfulness reduces parents' and children's psychopathology. *Mindfulness*, *7*(3), 680–689. doi:10.1007/s12671-016-0504-1

Molgaard, V. K., Kumpfer, K. L., & Fleming, E. (2001). *The Strengthening Families Program: For Parents and Youth 10-14; A video-based curriculum*. Ames, IA: Iowa State University Extension.

Molgaard, V. K., Spoth, R. L., & Redmond, C. (2000). *Competency training: The Strengthening Families Program: For Parents and Youth 10-14*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. Retrieved from https://www.ncjrs.gov/pdffiles1/ojjdp/182208.pdf

Moreira, H., & Canavarro, M. C. (2017). Psychometric properties of the Interpersonal Mindfulness in Parenting Scale in a sample of Portuguese mothers. *Mindfulness*, *8*(3), 691–706. https://doi.org/10.1007/s12671-016-0647-0

Parent, J., McKee, L. G., Rough, J. N., & Forehand, R. (2016). The association of parent mindfulness with parenting and youth psychopathology across three developmental stages. *Journal of Abnormal Child Psychology*, *44*, 191–202. doi:10.1007/s10826-011-9531-7

Pettit, G. S., Keiley, M. K., Laird, R. D., Bates, J. E., & Dodge, K. A. (2007). Predicting the developmental course of mother-reported monitoring across childhood and adolescence from early proactive parenting, child temperament, and parents' worries. *Journal of Family Psychology*, *21*, 206–217. doi:10.1037/0893-3200.21.2.206

Redmond, C., Spoth, R., Shin, C., & Lepper, H. S. (1999). Modeling long-term parent outcomes of two universal family-focused preventive interventions: One-year follow-up results. *Journal of Consulting and Clinical Psychology*, *67*, 975–984. doi:10.1037/0022-006X.67.6.975

Rueckert, L., Branch, B., & Doan, T. (2011). Are gender differences in empathy due to differences in emotional reactivity? *Psychology*, *2*(6), 574–578. doi:10.4236/psych.2011.26088

Shegog, R., Markham, C. M., Peskin, M. F., Johnson, K., Cuccaro, P., & Tortolero, S. R. (2013). It's your game . . . Keep it real: Can innovative public health prevention research thrive within a comparative effectiveness research framework? *The Journal of Primary Prevention*, *34*, 89–108. doi:10.1007/s10935-013-0293-4

Spoth, R., Guyll, M., Lillehoj, C. J., Redmond, C., & Greenberg, M. (2007). Prosper study of evidence-based intervention implementation quality by community–university partnerships. *Journal of Community Psychology*, *35*(8), 981–999. doi:10.1002/jcop.20207

Spoth, R., Redmond, C., & Shin, C. (1998). Direct and indirect latent-variable parenting outcomes of two universal family-focused preventive interventions: Extending a public health-oriented research base. *Journal of Consulting and Clinical Psychology*, *66*, 385–399. doi:10.1037/0022-006X.66.2.385

Spoth, R., Shin, C., Guyll, M., Redmond, C., & Azevedo, K. (2006). Universality of effects: An examination of the comparability of long-term family intervention effects on substance use across risk-related subgroups. *Prevention Science*, *7*, 209–224. doi:10.1007/s11121-006-0036-3

Spoth, R. L., & Redmond, C. (2002). Project Family prevention trials based in community–university partnerships: Toward scaled-up preventive interventions. *Prevention Science*, *3*, 203–221. doi:10.1023/A:1019946617140

Teti, D. M., & Huang, K. Y. (2005). Developmental perspectives on parenting competence. In D. M. Teti (Ed.), *Handbook of research methods in developmental science* (pp. 161–182). Hoboken, NJ: Wiley-Blackwell.

Townshend, K. (2016). Conceptualizing the key processes of mindful parenting and its application to youth mental health. *Australasian Psychiatry*, *24*, 575–577. doi:10.1177/1039856216654392

Tunis, S. R., Stryer, D. B., & Clancy, C. M. (2003). Practical clinical trials: Increasing the value of clinical research for decision making in clinical and health policy. *Journal of the American Medical Association*, *290*, 1624–1632. doi:10.1001/jama.290.12.1624

Turpyn, C. C., & Chaplin, T. M. (2016). Mindful parenting and parents' emotion expression: Effects on adolescent risk behaviors. *Mindfulness*, *7*, 246–254. doi:10.1007/s12671-015-0440-5

Ullman, J. B., & Bentler, P. M. (2012). Structural equation modeling. In I. Weiner (Ed.), *Handbook of psychology* (2nd ed.). Hoboken, NJ: Wiley Online Library. Retrieved from https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118133880.hop202023

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